

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

HENRICSON et al

Atty. Ref.: 30-548

Serial No. Unknown

Group:

Filed: May 15, 2001

Examiner:

For: METHOD AND APPARATUS FOR TREATING PULP

\* \* \* \* \*

May 15, 2001

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

Prior to calculation of the filing fee and in order to place the above identified application in better condition for examination, please amend the claims as follows:

IN THE CLAIMS

Please substitute the following amended claims for corresponding claims previously presented. A copy of the amended claims showing current revisions is attached.

4. (Amended) Method according to claim 1, characterized in that only the part of the filtrate that is being used as washing liquid is treated with an oxidizing chemical.

7. (Amended) Method according to claim 1, characterized in that said filtrate is obtained from a washing stage of said multi-stage drum filter and treated with an oxidizing chemical before it is returned back to another washing stage of said multi-stage drum filter to be used as washing liquid.

16. (Amended) Method according to claim 14, characterized in that said oxygen stage comprises one or several steps, whereby the steps are counted according to the mixing and chemical dosing.

27. (Amended) Apparatus for treating chemical pulp, which apparatus comprises at least a digester for cellulose fibrous material, so-called brown stock washing devices, devices following the wash of the pulp for delignifying/bleaching the pulp in the oxygen stage and devices for washing the pulp after the oxygen stage and further filtrate lines (FL) for leading washing filtrates countercurrently to preceding washers to be used as

washing liquid, characterized in that the filtrate line (FL) pre-ceding the oxygen stage is provided with devices for treating the filtrate flowing in that part of the line with oxidizing chemical.

28. (Amended) Apparatus according to claim 27, characterized in that said oxidizing devices are arranged in a washing water line (FL) located between the washer just prior to the oxygen stage and the washer preceding said washer.

29. (Amended) Apparatus according to claim 27, characterized in that said oxidizing devices comprise at least a mixer.

30. (Amended) Apparatus according to claim 29, characterized in that the mixer used is a filtrate pump or a mixer arranged in the filtrate line (FL) for that special purpose.

31. (Amended) Apparatus according to claim 27, characterized in that the apparatus further comprises after the mixer a reaction vessel or flow pipe, by means of which a sufficient reaction time is effected for the filtrate and the chemical.

32. (Amended) Apparatus according to claim 27, characterized in that when using a gaseous chemical, in the filtrate line after the mixer there is arranged a separator for excess non-reacted gas.

33. (Amended) Apparatus according to claim 32, characterized in that said gas-separator is connected to the filtrate tank wherein the separated gas and foam possibly separated with it are led.

34. (Amended) Apparatus according to claim 27, characterized in that the filtrate system preceding the oxygen stage comprises at least one pressurized reaction vessel.

HENRICSON et al  
Serial No. Unknown

**REMARKS**

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

The above amendments are made to place the claims in a more traditional format.

Respectfully submitted,

**NIXON & VANDERHIE P.C.**

By: 

**Bryan H. Davidson**  
Reg. No. 30,251

**BHD:lmv**

1100 North Glebe Road, 8th Floor  
Arlington, VA 22201-4714  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

4. (Amended) Method according to claim 1 [or 2], characterized in that only the part of the filtrate that is being used as washing liquid is treated with an oxidizing chemical.

7. (Amended) Method according to claim 1 [and 6], characterized in that said filtrate is obtained from a washing stage of said multi-stage drum filter and treated with an oxidizing chemical before it is returned back to another washing stage of said multi-stage drum filter to be used as washing liquid.

16. (Amended) Method according to claim 14 [or 15], characterized in that said oxygen stage comprises one or several steps, whereby the steps are counted according to the mixing and chemical dosing.

27. (Amended) Apparatus for treating chemical pulp, which apparatus comprises at least a digester [(100)] for cellulose fibrous material, so-called brown stock washing devices [(102)], devices [(110)] following the wash [(102)] of the pulp for delignifying/bleaching the pulp in the oxygen stage and devices [(122)] for washing the pulp after the oxygen stage [(110)] and further filtrate lines (FL) for leading washing filtrates countercurrently to preceding washers to be used as washing liquid, characterized in that the filtrate line (FL) pre-ceeding the oxygen stage is provided with devices [(124, 126, 128, 130)] for treating the filtrate flowing in that part of the line with oxidizing chemical.

28. (Amended) Apparatus according to claim 27, characterized in that said oxidizing devices [(124, 126, 128, 130)] are arranged in a washing water line (FL) located between the washer [(108)] just prior to the oxygen stage [(110)] and the washer [(1022)] preceding said washer [(108)].

29. (Amended) Apparatus according to claim 27, characterized in that said oxidizing devices comprise at least a mixer [(126)].

30. (Amended) Apparatus according to claim 29, characterized in that the mixer used is a filtrate pump [(122)] or a mixer [(126)] arranged in the filtrate line (FL) for that special purpose.

31. (Amended) Apparatus according to claim 27, characterized in that the apparatus further comprises after the mixer [(126)] a reaction vessel [(128)] or flow pipe, by means of which a sufficient reaction time is effected for the filtrate and the chemical.

32. (Amended) Apparatus according to claim 27 [and 29], characterized in that when using a gaseous chemical, in the filtrate line after the mixer [(126)] there is arranged a separator [(130)] for excess non-reacted gas.

33. (Amended) Apparatus according to claim 32, characterized in that said gas-separator [(130)] is connected to the filtrate tank wherein the separated gas and foam possibly separated with it are led.

34. (Amended) Apparatus according to claim 27, characterized in that the filtrate system preceding the oxygen stage [(110)] comprises at least one pressurized reaction vessel.